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CENTRAL INTELLIGENCE AGENCY

REPORT NO.

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COUNTRY USSR (Chelyabinsk Oblast)

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SUBJECT Ural-ZIS Automobile Plant near MIASS

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ACQUIRED

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Letter of 18 October 1978 from the Director of Central Intelligence to the UNCLASSIFIED INFORMATION Next Review Date: 2008

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1. Location and Traffic Facilities

a. The plant is located about 3 miles north-northwest of the MIASS RR station (at the double-track electrified CHELYABINSK-UFA RR line) and is connected with this main line by a single-track spur RR line. A loading station exists at the plant and the settlement.

b. A 16-foot-wide highway leads from the plant to the MIASS RR station.

c. On the east and south, the plant borders a settlement district unanimously designated as NOVO-STROIKA or NCVY-MIASS settlement (see layout, Annex № 1).

2. Plant History

a. The construction of the plant was started at the end of 1941. The basic equipment of the plant were installations of the MOSCOW Stalin Automobile Plant evacuated with the work force to MIASS. Small-scale production of trucks started in 1942/1943. The plant has been enlarged since 1945. Machinery dismantled at the STETTIN Stoewer Automobile Plant was said to have been used. These machines had been stored in the plant area.

b. The construction of the plant was under way in 1948 but presumably will not be completed until 1950.

3. Work Force and Working Time

Statements of the number of workers on one shift vary between

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3,000 and 5,000. The total number of employees may therefore be estimated at 12,000. This number includes about 4,000 P.W. work is done in three 8-hour shifts.

4. Security

The plant is surrounded by an 8-foot-high wooden fence. Search-light-equipped watchtowers are outside the fence at 300-foot intervals. Armed plant militia are on guard duty in the plant itself.

5. Plant Installations:

a. The plant covers an area of 3,300 x 2,500 feet (Indications [redacted] are only slightly different).

b. The following departments are recorded (enumerations correspond to the numbers of Annex No 2):

(1) Foundry No 1 for light metal alloys.

(a) Installation: several AEG electric furnaces with graphite electrodes (the indicated numbers vary between four and seven), conveyor belts, traveling cranes. [redacted] the volumetric capacity of one electric furnace at 60 tons and the number of furnaces at 4.

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(b) Production: light metal-copper alloys and castings made of such alloys.

(2) Foundry No 2 for steel castings. (foundry No 1 and No 2 are in one workshop)

(a) Installation: three to four open-hearth furnaces (coke firing).

(The furnace capacity is indicated at 20 tons per tapping.) Allegedly also one Thomas converter, conveyor belts, and two traveling cranes. In the same building are also the foundry cleaning shop, the grinding shop, and the molding shop.

(b) Production: gear wheels, brake shoes, hubs, and other steel parts ([redacted] also rims). Also castings of bevel wheels and cog wheels delivered from CHELSK are tooled in this grinding shop.

(3) Foundry No 3 for grey castings:

(a) Installation: five to six cupola furnaces (core firing) (The volumetric capacity of one furnace is indicated at 25 to 30 tons. One tapping is done per shift)

Two traveling cranes and four conveyor belts.

Molding shop (sand-molding):-- the daily output is indicated at 60 molds)

Cleaning shop and grinding shop.

The three shops are in the same building.

(b) Production: casting of engine blocks, gear boxes, oil-pans, lids. The daily output is indicated at 90 engine blocks (including 50% waste products) and 60 gear boxes (33% waste). The waste material is re-smelted.

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(4) Engine department: (two-story building)

(a) The following installations are on the ground floor:

20 to 25 drilling and grinding machines
 60 to 80 special machines
 8 to 10 milling machines
 20 to 30 lathes
 5 to 6 planers
 5 shaping machines
 1 conveyor belt for the assembly
 1 test stand for 20 engines
 10 small cranes
 2 hardening shops with 3 annealing furnaces (each oil firing)
 with three oil baths each for hardening axles, shafts, and gear wheels.

(b) Production: Single parts and assembly of engines running on gasoline and of engines operated with gas producers. One [redacted] reported the construction of gas generators. The alleged daily output was 75 engines including 10 engines operated with gas generators. (The last fact was emphasized [redacted])

[redacted] Part of the finished engines are delivered to other plants. Castings of gear wheels, crankshafts, and cam-shafts come from a CHELYABINSK Plant. 25X1

(5) Mechanical department.

(a) Installation: 30 simple spindle lathes
 15 milling machines
 8 small planers
 5 shaping machines
 20 to 25 one-spindle and multiple-spindle drilling machines
 10 grinding machines
 5 thread-cutting machines
 4 hardening furnaces
 armature winding shop

(b) Production: differential gears, change gears, clutches, turning of axles.

(6) Mechanical department

(a) Installation: unknown
 (b) Production: finished parts

(7) Forge (drop forge) and punching shop:

(a) Installation: unknown
 (b) Production: forgings

(8) Mechanical frame department

(a) Installation: planers, horizontal milling machines, spindle lathes, high speed shapers, pull type keywaying machines (most of the machines are of German make, 20 percent are of American make, and a very small part are old Russian machines).

5 large and 2 small annealing furnaces

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(b) Production: tooling of single parts including springs, lids for differential gear boxes (60 pieces daily), axles, and stub axles.

Assembly of partial sets (including 100 front and rear axles as well as 50 to 60 frames daily), welding of automobile frames, assembly of the frame including mounting of tires.

(9) Automatic frame department and final assembly:
(Two-story building. The second floor is built as a circular balcony platform)

(a) Installation (1st floor): 2 conveyor belts running through the entire workshop, depots for single parts along the lateral walls of the workshop
5 traveling crabs.

(b) Production (1st floor): final truck assembly (mounting of engines, assembly of frames and bodies, installing of the electric system).

(c) Installation (2d floor):
2 drilling machines
2 welding apparatuses
2 traveling crabs
various work benches

(d) Production (2d floor): final assembly of driver's cabins and superstructures, welding, upholstering, assembly of instrument-boards, fixing of window panes, spray-painting)

(10) Instrument department:

(a) Installation: a great number of machine tools, a forge and hardening shop

(b) Production: Complete tool sets for trucks. The building also serves as spare part depot.

(11) Sawmill

(a) Installation: two frame saws (allegedly steam operation).
[redacted] the sawmill has its own boiler house.

(b) Production: cutting of boards for truck bodies.

(12) Wood-working department (carpentry)

(a) Installation:

4 planers
2 combined woodworking machines
3 circular saws and three band saws
4 milling machines
5 drilling machines
1 multiple-spindle drilling machine
1 frame press
(all machines are operated electrically)

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(b) Production: truck superstructures (driver's cabins, lateral walls, truck bodies, seats). 80 cubic meters of wood are processed daily.

(13) Nut and screw department.

(a) Installation:

lathes, thread cutting machines, screw taps, oil presses (for pressing screw threads), 2 large drawing benches, 1 small drawing bench for adjusting hexagon iron for screws and nuts, 1 annealing furnace (oil firing) for hardening, 4 large electric furnaces for thermal treatment.

(b) Production: nuts, bolts, and screws.

(14) Two new buildings.

The future use of these buildings is not known. Machine tools were installed in one workshop at the time of observation. The second building is provided for storing single parts.

(15) Power station.

It is a steam power plant with coal firing. [redacted] there is an additional Diesel generator.

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(16) Transformer station.

It transforms power supplied from an outside power plant (NIASS Power Plant ?) through a transmission line. Only part of the installation is roofed.

(17) Old boiler house

(a) Installation: 30 (?) boilers (1 boiler is 26 feet high and 13 feet in diameter), 5 furnaces (1 furnace for 6 boilers) with coal firing.

(b) Production: steam for heating purposes of the plant (southern and western part of the plant).

(18) New boiler house:

(a) Installation: the number of boilers is not recorded. Boiler capacity: 25 to 28 atm. gauge furnaces are built for coal dust firing, daily coal consumption allegedly 60 to 80 tons.

(b) Production: steam for heating purposes of the plant (northern and eastern part of the plant) and for operating the presses.

(19) Lubricant and fuel dump.

4 tapping points of underground tanks, 4 above-ground tanks, 40 feet long with a volumetric capacity of approximately 15 tons.

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- (20) Warehouses for raw materials, parts, and finished engines.
- (21) Storage place for machines. The machines of the STETTIN Stoewer Plant were stored in this dump at the time of observation.
- (22) Parking lot for finished trucks
- (23) Administration (three-story building)
- (24) Plant training school.
- (25) Engine sheds (for two plant-owned shunting locomotives)
- (26) Plant RR station.
- (27) Factory for building materials.
- (28) Kitchen and messhall
- (29) Guard station

6. Production:

a. The development of production is shown in the following chart:

	<u>daily output</u>	<u>monthly output</u>	<u>annual output</u>
1945	12	300	3,600
1946	20	500	6,000
1947	40	1,000	14,000
1948	50	1,250	15,000
(scheduled output at the end of 1948:		1,800 (actual output in November 1948: 1,700)	
1950 scheduled production	250	6,250	75,000

(The 1950 plan figures were published in the press.)

b. "ZIS-5" trucks are built in the plant (3.5 ton trucks with two axles, double rear wheel tires, and 6 cylinder Otto engine, gasoline consumption 6.5 to 8 gallons for 65 miles).

c. The first models of an improved "ZIS-5" truck were turned out early in 1949. They had the following new features as compared to the old model:

d. Three-seat driver's cabin, streamlined body, elongated frame (increasing the loading space by 0.3 cubic meters), hydraulic brake, larger fuel tank. The mass-production of single parts already started about February 1949.

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e. In addition to the "ZIS-5" truck, a 2.5-ton "ZIS-21" truck with gas producer has been built since 1947.

f. At the end of 1948, one half of the trucks were built for gasoline operation, the other half for gas generator operation. (Early in 1948 only about 20 percent were built for gas generator operation.)

In addition to completed trucks, the plant also delivers engines to other plants ([redacted] 300 units monthly), as well as spare parts.

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g. [redacted] despite the mainly modern plant equipment, any production increase is hampered by bad organization and the high waste percentage.

h. During the time of observation, the following high quality steel parts were still supplied from a CHELYABINSK plant: raw materials for frames, wood gas generators, fenders, radiators, rims, wheel hubs, pumps, filters, cog wheels and bevel wheels, ball bearings, upholstery material and springs, tires and tubes.

i. One hundred and twenty complete sets of engines were delivered from MOSCOW in July 1948 (for the first time?). (The engines were marked with the embossed inscription "Moskva")

j. It is planned to improve progressively the plant facilities and to make them, as far as possible, independent of outside shipments.

k. The following raw materials were delivered to the plant during the time of observation:

Lubricants and fuels, coal, lime, iron bars, rod iron, scrap, steel ingots, light metal bars, nonferrous metal rods.

2 Annexes: (1) Ural-ZIS Automobile Plant Near MIASS,
Chelyabinsk Oblast
(2) Ural-ZIS Automobile Plant Near MIASS,
Chelyabinsk Oblast

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Comment: [redacted] largely agree regarding the plant layout and plant installations, as well as regarding the kind and amount of production. The sketches [redacted] differ considerably. The annexed plant sketch can, therefore, be used only for general information, as it is based only on repeatedly confirmed location data.

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